

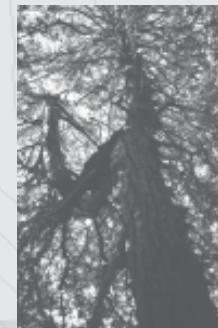
Across the road from the orchard on the trail beginning at the Stanley Spyra Memorial Grove there are many visible remnants of the 1906 earthquake. Especially noticeable are the damaged giant redwoods and surface features such as sag ponds and escarpments. The ancient giant bay and redwood trees are hundreds of years old.



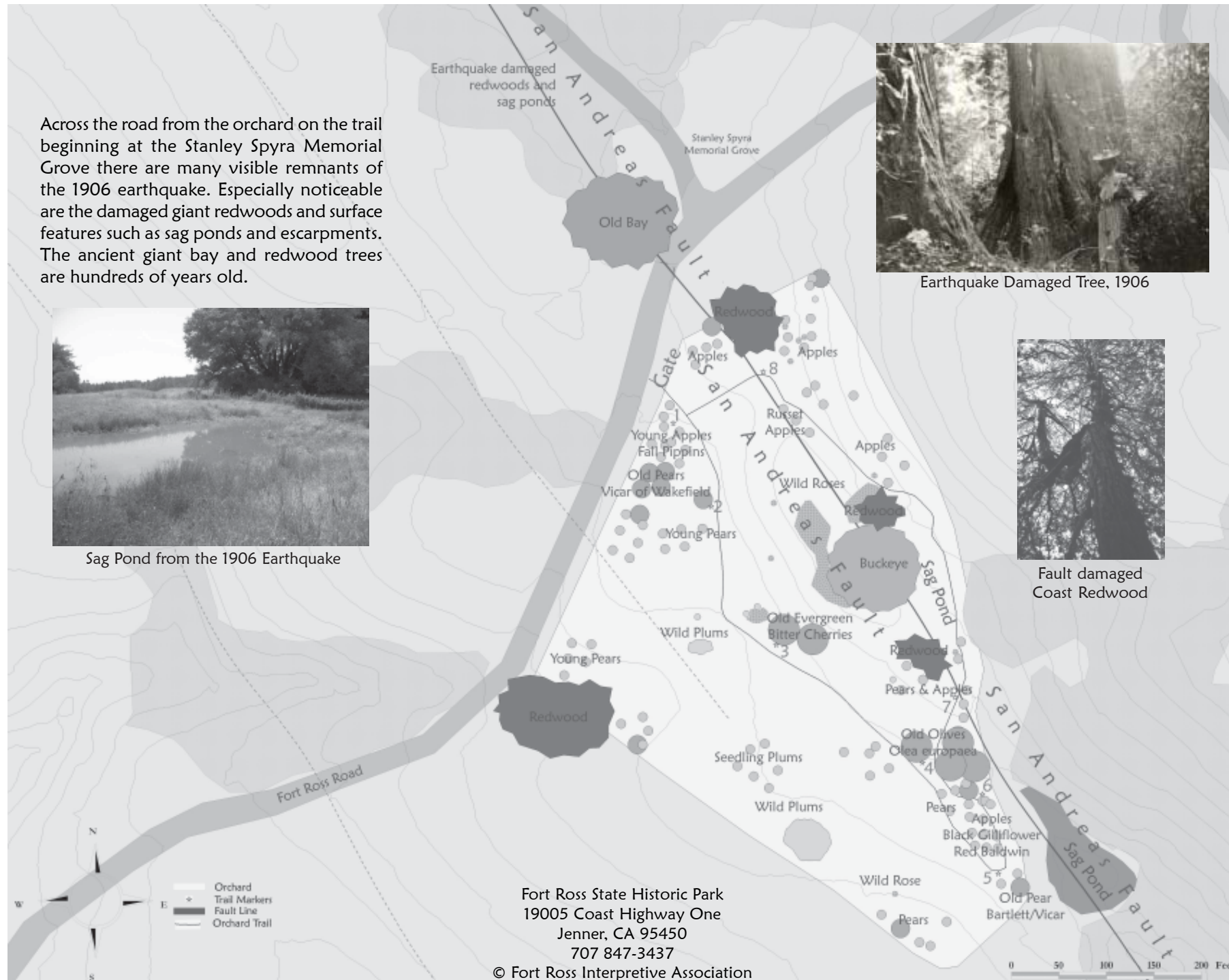
Sag Pond from the 1906 Earthquake



Earthquake Damaged Tree, 1906



Fault damaged Coast Redwood



Historic Fort Ross Orchard

on the
San Andreas Fault



A Self-Guided
Walking Tour

Orchard Self-Guided Tour

The original Russian orchard was established in 1814. Eventually it encompassed two to three acres, and contained approximately 260 trees. *K. T. Khlebnikov's Reports 1817-1832* state “. . . insofar as fruit trees are concerned . . . the first peach tree [was brought] from San Francisco. . . in 1814 . . . In 1817 grape vines . . . from Lima, and in 1818 peach trees from Monterey. In 1820 we sent 100 cuttings of apples, pears, cherries, peaches and bergamots; these were small cuttings which produced their first fruit in 1828.”

The Inventory and Bill of Sale Transferring Possession of Russia's California Properties to John Sutter in 1841 lists “. . . 207 apple trees, 29 peach trees, 10 pear trees, 10 quince trees, 8 cherry trees, also some vines.” John Bidwell, Sutter's manager, described the Russian orchard as: “. . . a small but thrifty orchard consisting of apple, peach, pear, cherry, and quince trees—the peach trees had not shed their leaves and several were in blossom; the quince and more than half of the apple trees were as green as in summer. Pear trees I am informed come to great perfection. Fig trees likewise are found in almost every orchard and grow well. The wine grape is cultivated and grows to perfection. . .”

Historically, there were two additional orchards established by the families who ranched the land after the Russian settlement. William Benitz who bought Fort Ross in 1849 added an extensive planting. In 1858 he wrote: “I am now especially dedicated to the cultivation of fruit trees. I have an orchard of 450 apple trees, and 150 of other kind of fruit. I will have a piece of land fenced, where I will plant 1800 apple trees next winter. These trees already give fruit in the second year. . .” The Benitz orchard, located on the north side of Fort Ross Road, was once reported to have over a thousand trees, though no trees remain today.

George W. Call bought Fort Ross in 1873. He used both the Benitz and the old Russian orchard for commercial purposes. In 1898, for instance, 481 boxes of apples were shipped by schooner to San Francisco. The family planted a variety of fruit trees, especially prunes and plums, on the hills to the south. Some of these trees bear fruit to this day.

The young trees in this orchard, planted in the 1980s were grown from cuttings of the original parent trees, some of which may have been grown by the Russians.

San Andreas Fault

California's major earthquake rift zone, passes through San Francisco and comes ashore two miles south of Fort Ross, then runs north and through this orchard. The fault is the result of the boundaries of the Pacific and North American plates passing by each other. On this portion of the fault the movement tends to be in sudden large events, and it is thought that this section of the San Andreas Fault moves significantly only every few hundred years. California's 1906 earthquake was the sudden result of such motion. The fort itself lies on marine sediments to the seaward side of the fault. These sediments were deposited underwater on the Pacific plate forty to sixty million years ago, and have moved from the south about three hundred miles up the California coast. In 1906 the land at Fort Ross shifted 12.6 feet along a narrow well-defined area above the plate movement. The resulting surface features can still be seen today. Offset creeks, sag ponds (depressions along the fault which often become filled with water in winter), escarpments, shifted fences, and damaged trees are lasting evidence of the quake.

Marker 1

Here you will see three rows of young apple trees grown by volunteers during the 'Save the Trees' project of the 1980s. These trees were from cuttings of the original parent trees that may have been grown by the Russians. Beyond the daughter apple trees are two thirty five foot pear trees (*Pyrus communis*, var. 'Vicar of Wakefield') thought to be over a hundred years old, yet still producing an abundance of fruit.



Old Pear "Vicar of Wakefield"

Marker 2

Noteworthy is the phenomenon of the downed pear tree here, whose offshoots are growing vertically, living off the nutrients of the old tree, and which still produce fruit.

Marker 3

These bitter cherry trees produce tiny pea-sized fruit called 'sloe cherries' (var. of *Prunus serotina*). The wood of these trees is so hard that the tree remains standing a long while after it has died.

Marker 4

These four olive trees (*Olea europaea*) were either planted by the Russians or by the Call family.

Marker 5

The huge pear trees, including the ones outside the fence, are some of five varieties shipped from Europe (*Pyrus communis* var. Bartlett/Vicar) and are still very productive. There are several fruit trees located beyond the current fence of this orchard. Go back along the fence to Marker 6.

Marker 6

There were apparently about 16 varieties of apple trees grown in this orchard (all *Malus* spp.) At this location, there are four Black Gilliflowers, with striated round apples, and a Red Baldwin, distinguishable by its bright red and yellow fruit.

Marker 7

There are more pear and apple trees here, and on the other side of the current fence are two cherry trees.

Trail between Markers 7 and 8

The San Andreas Fault traverses the length of the Fort Ross orchard in an approximate north-south direction. The dramatic effects of the earthquake are visible between trail markers 7 and 8 where there is a sag pond. Also interesting and beautiful is the large buckeye tree whose spreading roots reach into the earthquake-formed escarpment or pressure ridge on the other side of the sag pond. Pressure ridges form when two tectonic plates collide. Nearby are damaged giant redwoods. Trunks were split and the top branches snapped off, but they continued to grow in a deformed manner.

Marker 8

In the shelter of the redwood trees is the only apple tree standing that is thought to be a Gravenstein variety. There is some controversy as to whether this is truly a Gravenstein, because even though it fits the physical description, historic records show Gravensteins as having been introduced to California after the Russians left.